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ABSTRACT

Long before he was a Founding Father, Benjamin Franklin was world famous for his work in electricity. He challenged the prevailing idea that there were two distinct kinds of electrical fluid, proposing that there is one kind of electricity and two charges. He invented the lightning rod which is still used today and so found a highly practical use for one of his scientific theories, that lightning and electricity are the same thing. But Franklin never thought of himself as a scientist, and the word did not enter the English language until some 50 years after his death in 1790. Science was not considered a profession in the 18th century, a time that saw the creation of whole new fields of science: electricity, geology, paleontology, and modern chemistry. In an exhibit that opened in 1999, the Smithsonian's National Portrait Gallery spotlighted a collection of portraits of Benjamin Franklin and his colleagues in natural philosophy, as science was then called. This issue of "Smithsonian in Your Classroom" reproduces the portraits of Edward Bromfield, David Rittenhouse, Benjamin Rush, David Wiley, and John Winthrop; presents an overview of Franklin and his activities; and provides three lesson plans highlighting these activities. Lesson 1 revolves around language arts; lesson 2 addresses the sciences; and lesson 3 features the visual arts. In each lesson plan, a student objective is given, materials needed are listed, and a classroom procedure is suggested. Additional information about Franklin is attached along with a reference list that contains five books, four books for young people, and four Web sites. (BT)

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ED 463 221

SMITHSONIAN IN YOUR Classroom

September 1999

Making Friends with Franklin

SUBJECTS
- Language Arts
- Science
- Visual Arts

Grades 3-8

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Smithsonian Center for Education and Museum Studies

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Making Friends With Franklin

Benjamin Franklin, by Mason Chamberlin (1727-1787), Oil on canvas, 1762. Courtesy Philadelphia Museum of Art, Philadelphia, Pennsylvania

Grades: 3-8

Subjects

Language Arts
Science
Visual Arts

Standards

Language Arts: Standard 1

- Uses the general skills and strategies of the writing process

Language Arts: Standard 5

- Uses the general skills and strategies of the reading process

Science: Standard 13

- Understands the scientific enterprise

Visual Arts: Standard 5

- Understands the characteristics and merits of ones own artwork and the artwork of others

Introduction

Long before he was a Founding Father, Benjamin Franklin was world famous for his work in electricity. He challenged the prevailing idea that there were two distinct kinds of electrical "fluid." He proposed that there is one kind of electricity and two charges, which he called positive and negative, the terms we still use. He invented the lightning rod—which we also still use—and so found a highly practical use for another theory, that lightning and electricity are the same thing. To prove the theory, he pulled electricity from the sky with a kite and a key, a feat that gave him the status of a Yankee Prometheus.

Benjamin Franklin, by Charles Willson Peale (1741-1827), Oil on canvas, 1789. Courtesy Historical Society of Pennsylvania, Philadelphia, Pennsylvania

But Franklin never thought of himself as a scientist. The word scientist did not enter the language until some fifty years after his death in 1790. There was no such profession in the eighteenth century, a time that saw the creation of whole new fields of science: electricity, geology, paleontology, modern chemistry. How, then, did scientific investigators like Franklin view themselves? How did they wish to be viewed?

The Smithsonian National Portrait Gallery raises these questions in *Franklin & His Friends*, an exhibit that opened in the spring of 1999. It is a collection of portraits of Benjamin Franklin and his American colleagues in "natural philosophy," as science was then called. They were a far-flung and rather diverse group of men who had in common an interest in the workings of the natural world. Many of them overcame the difficulties of distance and held together a circle of friendship through correspondence.

Making Connections

Seeing the portraits gathered together—as the friends themselves never were—we can get a sense that something like a scientific community was emerging in early America. If by nothing else, these men are connected by the similarities in the pictures.

In Franklin's portrait, as in the others on these pages, the symbols of science are nearly as prominent as the sitter. The device over his shoulder is a system of bells and cork balls that told him when the lightning rod outside was electrified. Protected by his own invention, he has the luxury of calm reflection in a fancifully violent storm.

The physician Benjamin Rush (right) is the only one here without a "philosophical" or "mathematical" instrument, as scientific instruments were called. But someone familiar with the conventions of European portraiture might guess that he is a man of science, even without reading the lines he has written ("We come now, gentlemen, to investigate the cause of earthquakes"). Like others here, he sits in a quiet "closet," or study. Like Edward Bromfield and David Rittenhouse (opposite page), he wears a banyan, a long, loosely fitting gown associated with studiousness. As Rush himself said, "Loose dresses contribute to the easy and vigorous exercise of the faculties of the mind."

This identification with work and achievements seems perfectly in keeping with Franklin's idea of America as a place "where people do not inquire concerning a stranger, 'What is he?' but 'What can he do?'" At the same time, it seems that these Americans, by presenting themselves in portraits that drew on established European imagery for the life of the mind, were taking their places in an international community as well.

Edward Bromfield

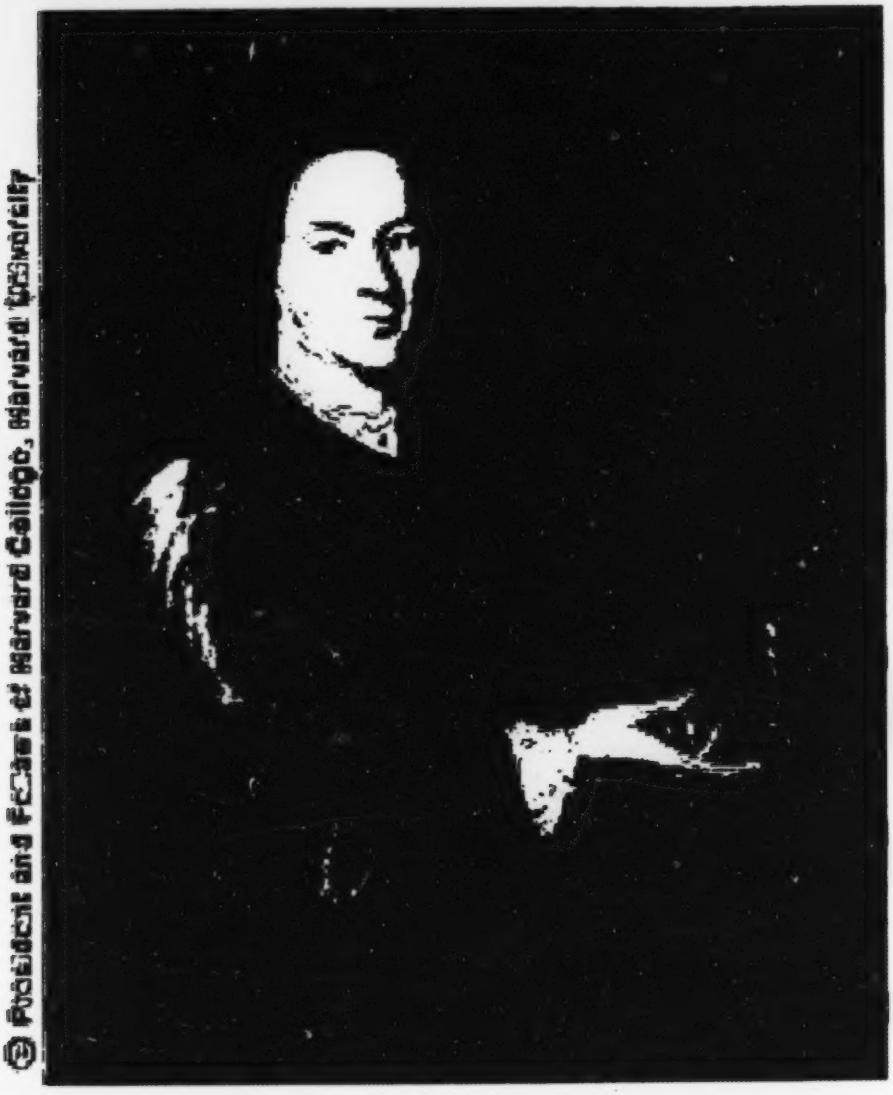
David Rittenhouse

Benjamin Rush

David Wiley

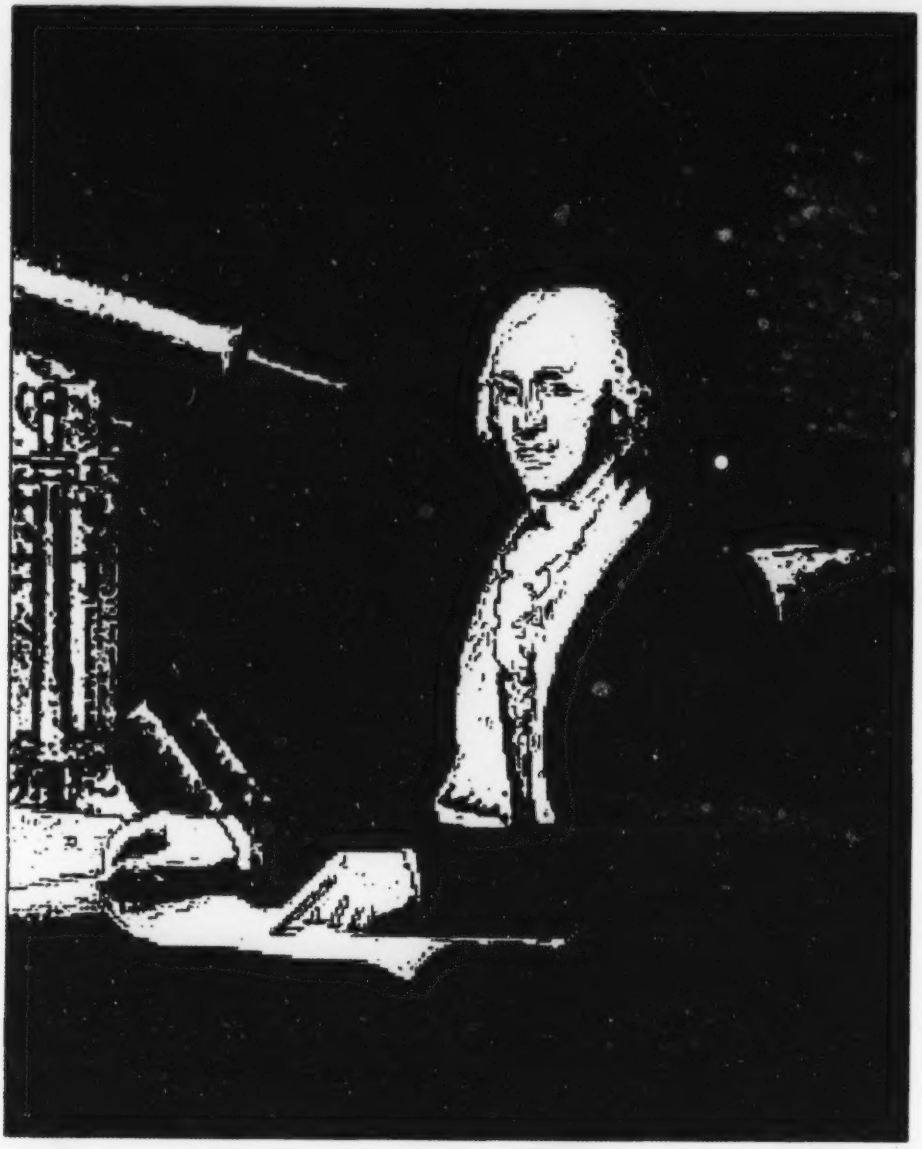
John Winthrop

Making Friends With Franklin



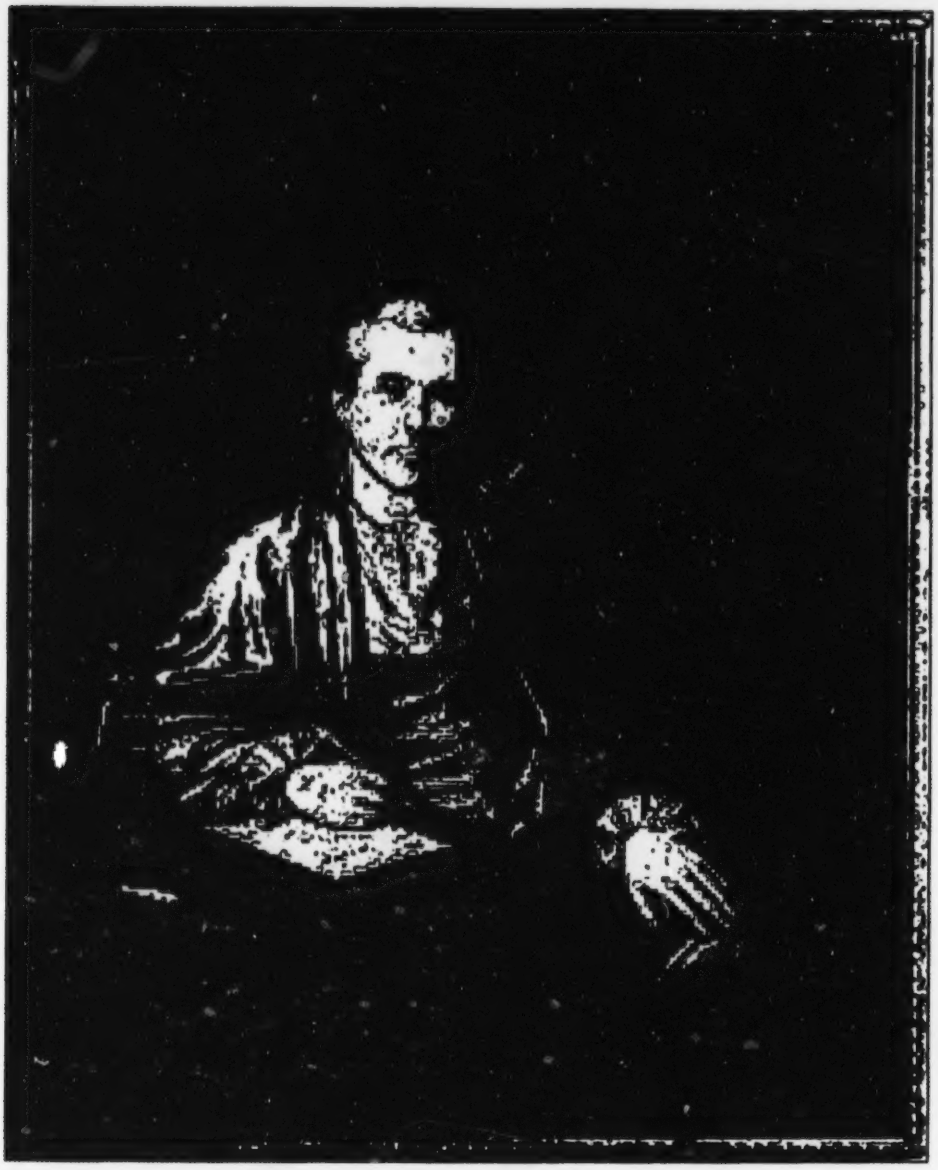
Edward Bromfield, a promising Harvard graduate who died at twenty-three, with a compound (two-lens) microscope.

Edward Bromfield, attributed to John Greenwood, circa 1746. Harvard University Portrait Collection; loan from the Bromfield School to the Harvard Corporation, 1932.

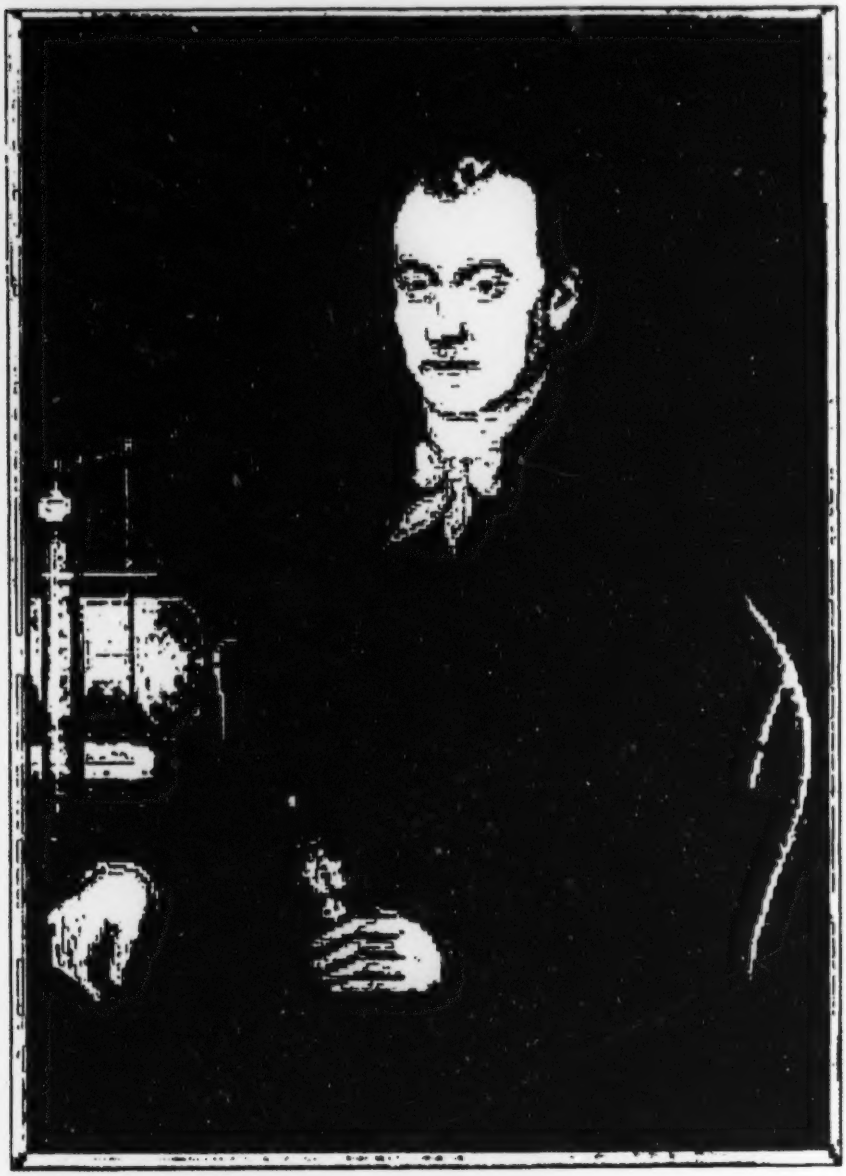


David Rittenhouse, instrument maker and self-taught astronomer, with a reflecting telescope that he may have inherited from Franklin.

David Rittenhouse by Charles Willson Peale, 1796. National Portrait Gallery, Smithsonian Institution; bequest of Stanley P. Sax.

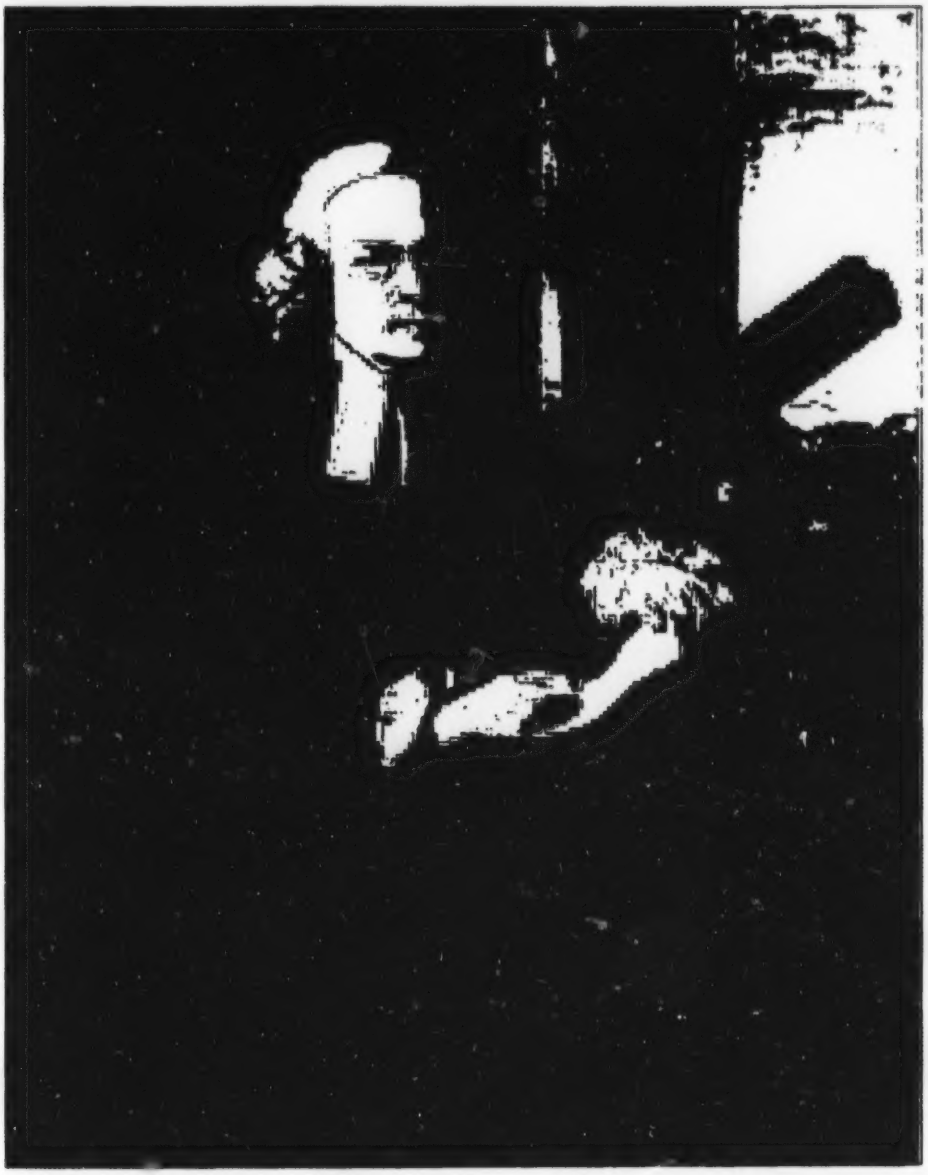


Benjamin Rush, by Charles Willson Peale, 1783 and 1786. Winterthur Museum; gift of Mrs. Julia B. Henry, 1959.



David Wiley, a Presbyterian minister, holds a Leyden jar; a device for storing the static electricity generated by the machine behind him. Franklin used a Leyden jar to capture the electricity from the key in the kite experiment.

David Wiley, by Charles Peale Polk, circa 1800. National Portrait Gallery, Smithsonian Institution.



John Winthrop, Harvard professor and descendant of the first governor of Massachusetts, with a reflecting telescope. Like Rittenhouse, Winthrop furthered the understanding of the solar system by studying Venus.

John Winthrop by John Singelton copley, circa 1773. Harvard University Portrait Collection; gift of the executors of the estate of John Winthrop, 1894.

The Republic of Science

The association with European scientists was not just symbolic. Soon after the Revolutionary War, Rush, a signer of the Declaration of Independence, wrote to a professor at Edinburgh that "the members of the republic of science all belong to the same family. What has physic [medicine] to do with taxation or independence?"

Franklin, too, believed that science transcended conflicts between nations. During the war he issued a "passport" for Captain Cook, the British explorer, who had set out on a voyage before the war began. He addressed a letter to all American ships, recommending that Cook's ship not be seized, for "the increase of geographical knowledge facilitates the communication between distant nations . . . whereby the common enjoyments of human life are multiplied and augmented, and science of other kinds increased to the benefit of mankind in general."

The "republic" also transcended class lines. The social backgrounds of American men of science ranged from the Boston Puritan establishment and the Southern planter aristocracy to that of Franklin himself.

Benjamin Rush was interested in earthquakes as a medical as well as a geological subject. He examined a geological subject. He examined them as a possible cause of disease.

Benjamin Rush, by Charles Willson Peale, 1783 and 1786. Winterthur Museum; gift of Mrs. Julia B. Henry, 1959.

Scientist and Statesman

Franklin was born in Boston in 1706, the fifteenth child of an immigrant candle and soap maker. When he was twelve, he signed indentures to serve in his brother's printing shop. At seventeen, he fled his brother's mistreatment, which included beatings, and ended up in Philadelphia looking for printer's work. At twenty-two, he established his own printing business. While still in his twenties, he began publishing *The Pennsylvania Gazette*, which became the most popular newspaper in America, and Poor Richard's Almanack, which would sell more than ten thousand copies a year. At forty-two, he retired from business to "read, study, make experiments."

The retirement didn't last long. To Franklin, science was of a piece with public service, and his scientific reputation made him all the more desirable as a public servant. In 1757, the Pennsylvania Assembly chose him to represent its interests in London. He stayed for most of the next eighteen years, acting as an agent for several colonies. The day after his return to Philadelphia, he was elected to the Second Continental Congress. The next year, 1776, he helped draft the Declaration of Independence and accepted an appointment as commissioner to France. He lived in Paris until 1785, obtaining arms, funds, and the support of the French government for the American cause. In 1787, at the age of eighty-one, he served as a delegate to the Constitutional Convention.

A Bifocal View

One way of looking at Franklin's life is to see a range of interests almost too broad for one mind to encompass. Another way is to see a remarkable single-mindedness.

Franklin was forever questioning something. His scientific investigations were, as he put it, questions "into the nature of things." In human affairs, he questioned what he called "arbitrary power," whether the wielder of the power was his brother or King George III. Most importantly, he never stopped questioning himself: long after he was recognized as a genius, he continued to strive for self-improvement, which usually meant knowledge. On his diplomatic missions, he used the idle time of the transatlantic voyages to chart the Gulf Stream. In his very last days, he was still thinking like a scientist, even to a comical fault. When an old friend complained of becoming hard of hearing, Franklin advised that he try cupping his hand to his ear: "By an exact experiment I found that I could hear the tick of a watch at forty-five feet distance by this means, which was barely audible at twenty feet without it."

Thinking like a scientist—recognizing problems, collecting data through observation, testing ideas—seems to have been his natural inclination. He couldn't help noticing, for instance, that he felt warmer in dark clothing than in light, and he was not the type to let the question go at "Is it hot or is it just me?" On a sunny morning after a snowfall, he gathered patches of cloth of various colors, placed them on the surface of the snow, and went away for a few hours. When he returned, the light-colored patches were still resting lightly on the surface; the dark ones, by degree of their darkness, had sunk into melted depressions. Conclusion: dark colors absorb heat. Practical application: summer hats should be white in order to repel "that heat which gives headaches to many."

Civic life in Franklin's America presented as many opportunities for experiment as science did. Franklin established, or helped to establish, the first university and the first hospital in Pennsylvania, and the first lending library, the first scientific association, the first fire-insurance company, and the first street-cleaning system in America. He became president of the first abolitionist society in the world, on behalf of which he sent the first antislavery petition to Congress.

Perhaps it took a scientist's rigorous practice of observation to perceive so many absences in society, and to find in the absences the need for these establishments. Perhaps a bit of the scientist shows through in his most important observation as a statesman. He collaborated with Thomas Jefferson on a sentence that read, "We find these truths to be self-evident, that all men are created equal . . . ."

Franklin the Friend

It was Franklin, more than anyone else, who advocated the free exchange of scientific ideas through correspondence. The "penny saved" philosopher of Poor Richard's Almanack never sought a patent and never saw a penny for the lightning rod, the Franklin stove, bifocal glasses, or any of his other inventions. Rather, he made his findings and theories public, even before they were in finished form.

He wrote that "even short hints and imperfect experiments in any new branch of science, being communicated, have oftimes a good effect of exciting the ingenious to the subject." His proposal for a scientific society (which became the American Philosophical Society) called for the members to "improve the common stock of knowledge." He used his international reputation to introduce these American friends to European men of science.

By no means was Franklin counted as a friend only among his peers. John Adams reported from France that "there was scarcely a peasant or a citizen . . . who did not consider him a friend to human kind." Indeed, during his time in Paris his image appeared on all manner of French products: snuffboxes, pocketknives, dishes, handkerchiefs, clocks, and watches. In 1779, he could say, in all modesty, "My face is now almost as well-known as that of the moon."

It is still a well-known image, and it still appears in the unlikeliest places. A quick search of an Internet auction site turns up a Ben Franklin Smurf (holding a kite and a key), a Ben Franklin Beanie Baby (wearing bifocals), Ben Franklin salt and pepper shakers, and, most curiously, a Ben Franklin decanter for an after-shave called Wild Country.

It is not, however, a meaningless image, empty of everything but fame. Franklin still stands as a symbol for his fields of endeavor. Another Internet search shows his name attached to companies and organizations that advertise their "innovation," and to awards for excellence in design and printing, book publishing, library science, and insurance sales.

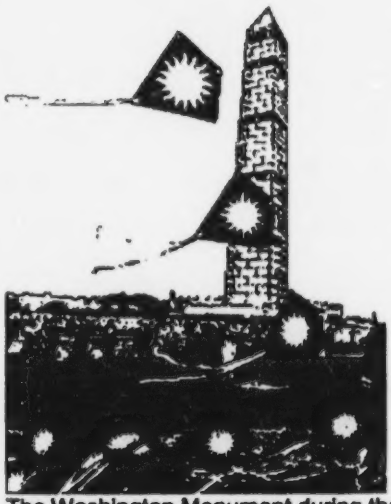
He sometimes wrote of life and work, self-improvement and the improvement of society, as if they were all the same thing. This may be why his appeal is so enduring. As an inspirational figure, he does not ask us to be Ben Franklin, only the best version of ourselves.

"What you would seem to be," he once said, "be really."

Enduring Legacy

Benjamin Franklin probably approved of the 555-foot monument to his friend Washington, for whom he had the loftiest of words: "George Washington, commander of the American armies, who, like Joshua of old, commanded the sun and the moon to stand still, and they obeyed him."

He might have also enjoyed knowing of his own contribution to the Washington Monument. For more than a century, a system of lightning rods has protected it from the strikes it gets, on average, once a year.



The Washington Monument during the 1999 Smithsonian Kite Festival.

The monument will be under a sheath of scaffolding until next spring. The National Park Service is cleaning the marble and making general repairs. Although it will replace the lightning rods, it will make no improvement on Franklin's invention. The new rods, in fact, will be closer to those of Franklin's time.

The Army Corps of Engineers installed the sytem in the 1880s, during the second phase of construction. The copper rods have a coating of gold, which protects the marble from stains, and tips of platinum.

"The platinum was excessive," said Steve Lorenzetti of the Park Service. "We believe it was put there because they thought it would better withstand a direct strike. But we've found that a copper rod will do the job just as well. We're keeping the copper and gold coating."

Lesson Plan 1

Taking a Page from Franklin

Objective

- Use a model text to practice writing.

Materials

- copies of Franklin's kite essay

Subject

- language arts

Students might try an exercise based on young Ben Franklin's idea for improving his writing skills. When he was a printer's apprentice, he came upon a volume of The Spectator, an English journal best known for the contributions of Joseph Addison and Richard Steele.

> In his Poor Richard maxims, Franklin showed a brilliance for saying much in little. But he recognized that good writing is not a matter of counting words, that things expressed briefly should also be expressed "fully." A few examples:
>
> "Be slow in choosing a friend, slower in changing."
>
> "A brother may not be a friend, but a friend will always be a brother."
>
> "Friends are the true sceptres of princes."
>
> "Life's a wilderness without a friend, and all its gilded scenes but barren and tasteless."

Well, we'll let him tell it:

> I thought the writing excellent and wished, if possible, to imitate it. With this view I took some of the papers and, making short hints of the sentiment in each sentence, laid them by a few days, and then without looking at the book tried to complete the papers again by expressing each hinted sentiment at length and as fully as it had been expressed before in any suitable words that should come to hand. Then I compared my Spectator with the original, discovered some of my faults, and corrected them.

For the model text, you might use the passage on the next page. It is from a letter Franklin wrote to Barbeu Dubourg, a French physician and botanist. It shows that his inventiveness (and, more specifically, his inventiveness with kites) began at an early age.

Procedure

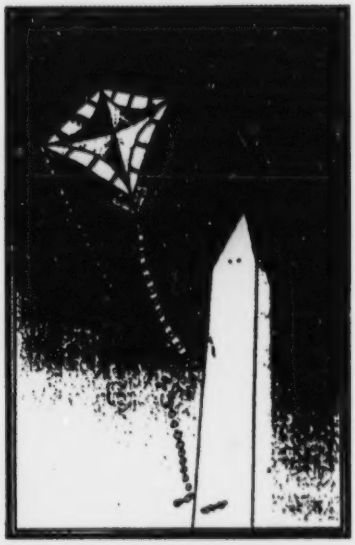
1. After studying each sentence, set the text aside and jot down notes on the sentence's content.
2. Set the notes aside until Franklin's words are no longer fresh in the memory.
3. Use the notes to reconstruct the ideas in essay form.
4. Compare the new work to the original.

Perhaps students will find that they've left out information, or that they've used more words to convey the information than Franklin did. Franklin offered this advice to writers: Amplification, or the art of saying little in much, should only be allowed to speakers. . . . Let them put an adjective to every substantive, and double every substantive with a synonima; for this is more agreeable than haulking, spitting, taking snuff, or any other means of concealing hesitation. . . . But when a discourse is to be bound down upon paper, and subjected to the calm leisurely examination of nice judgment, everything that is needless gives offense.

When looking again at the text, students should hold Franklin to his advice: Are there unnecessary words? Perhaps they will find instead that Franklin left out important details, or that he didn't present them clearly enough.

They might rewrite the imitation of the model text, as Franklin did in his exercise. You might then ask them to think up a sport of their own and describe it in a short essay.

An Eighteenth-Century Extreme Game



When I was a boy, I amused myself one day with flying a paper kite; and, approaching the bank of a pond which was near a mile broad, I tied the string to a stake, and the kite ascended to a very considerable height above the pond, while I was swimming.

In a little time, being desirous of amusing myself with my kite and enjoying at the same time the pleasure of swimming, I returned; and, loosing from the stake the string with the little stick which was fastened to it, went again into the water, where I found that, lying on my back and holding the stick in my hands, I was drawn along the surface of the water in a very agreeable manner.

Having then engaged another boy to carry my clothes round the pond, to a place which I pointed out to him on the other side, I began to cross the pond with my kite, which carried me quite over without the least fatigue, and with the greatest pleasure imaginable.

-Benjamin Franklin

Lesson Plan 2

Opposites Attracting

Objectives

- Demonstrate how electrical charges attract and repel.
- Draw conclusions about the nature of electricity.

Materials

- Cheerios or other cereal shaped as rings
- thread
- wire clothes hanger
- plastic comb
- piece of wool
- foam cup
- large nail (at least one inch longer than width of cup)

Subject

- science

Students may find it incredible that there is a connection between lightning—which can be as hot as 50,000 degrees Fahrenheit—and the static electricity in this experiment, which produces not so much as a snap, crackle, or pop.

Procedure

1. Cut two triangular notches out of the rim of the cup, on opposite sides, so that they will form a cradle for the nail.
2. Bend the ends of the coat hanger together until it can stand upright. Twist the hook of the hanger in the opposite direction and uncurl it a bit. (The contraption will resemble a swan.)
3. Cut off a few inches of thread. Tie a knot around the Cheerio and tie the other end of the thread to the hook (the beak of the swan).
4. Make adjustments so that the Cheerio hangs within half an inch of the nail point. Make sure the Cheerio has room to swing freely.
5. Vigorously rub the comb with the wool.
6. Touch the head of the nail with the comb. The Cheerio, at the other end, should touch the point of the nail and then jump back.
7. Rub the comb again and repeat the experiment. This time, the Cheerio should swing out, away from the nail.
8. Ask students to draw conclusions based on the previous action of the Cheerio.

We use the term charged to describe bodies in which the numbers of protons and electrons are unequal. We use Franklin's terms positive and negative to describe the charges. If there are more protons than electrons, the charge is positive; if there are more electrons, it is negative. Unlike charges attract. When the bodies carrying them touch, there is a transfer of electrons in which the two charges tend to equalize each other.

When we rub the comb, it picks up electrons from the wool and becomes negatively charged. The charge attracts the Cheerio by way of the nail, which acts as a conductor. But when the Cheerio touches the nail, it takes on the negative charge. Like charges repel. The next time we do the experiment, the Cheerio continues to be repelled.

Lightning, too, is a matter of positive and negative charges. In the turbulence of a storm cloud, a negative charge builds in the bottom of the cloud. It induces positive charges on the ground and within the clouds. At the swift meeting of positive and negative, we see the flash.

Lesson Plan 3

Objects as Self

Objectives

- Observe how objects and setting help to define a portrait subject.
- Create a self-portrait that emphasizes objects and setting.

Materials

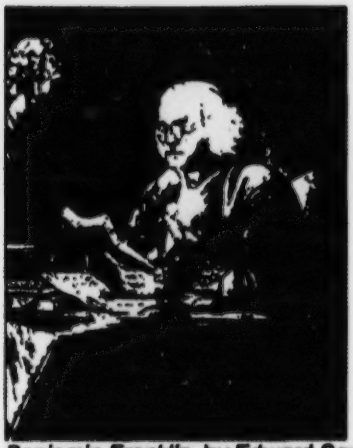
- copies of the images on these pages
- art supplies
- photographs of students (optional)
- heavy paper
- scissors
- glue

Subject

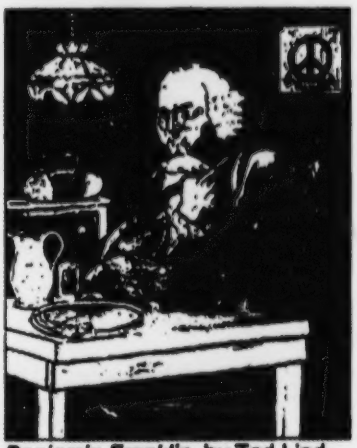
- visual arts

The image to the right is an engraving based on a portrait painted in 1767, when Franklin was in London as a representative of the colonies. The images below that are by Ted Lind, director of education at the Albany Institute of History & Art.

As an introduction to a self- portrait exercise, you might show students these pictures and ask questions along these lines: How do the changes in the new portrait affect your impression of Franklin? Do the changes make the objects in the original portrait more noticeable? Do the original objects help us understand what the artist wanted to say about Franklin? What are these defining objects? (The bust, by the way, is of Isaac Newton.)



Benjamin Franklin, by Edward Savage, after Benjamin West, after David Martin, mezzotint, 1793. National Portrait Gallery, Smithsonian Institution, Washington, D.C.



Benjamin Franklin, by Ted Lind.

Procedure

1. Ask students to bring in a full-body photograph, or have them draw a full-body self-portrait.
2. Photocopy the photographs or drawings, enlarging them if possible.
3. Have students clip out these photocopied images so that they are somewhat like paper dolls.
4. Assign an exercise in which they attempt to express self through setting and objects only. This might be a drawing of a room containing favorite objects, or it might be a magazine-picture collage of things that represent their backgrounds, interests, and aspirations.
5. Have them glue the "paper doll" image onto this setting to create a new portrait.

Ask students to think of their work as if it had the importance of portrait painting in Franklin's time, when this was one of the few ways of making a visual record of a person's life. The eighteenth- century painter Jonathan Richardson wrote that "to sit for one's picture is to have an abstract of one's life written, and published, and ourselves thus consigned over to honor or infamy."

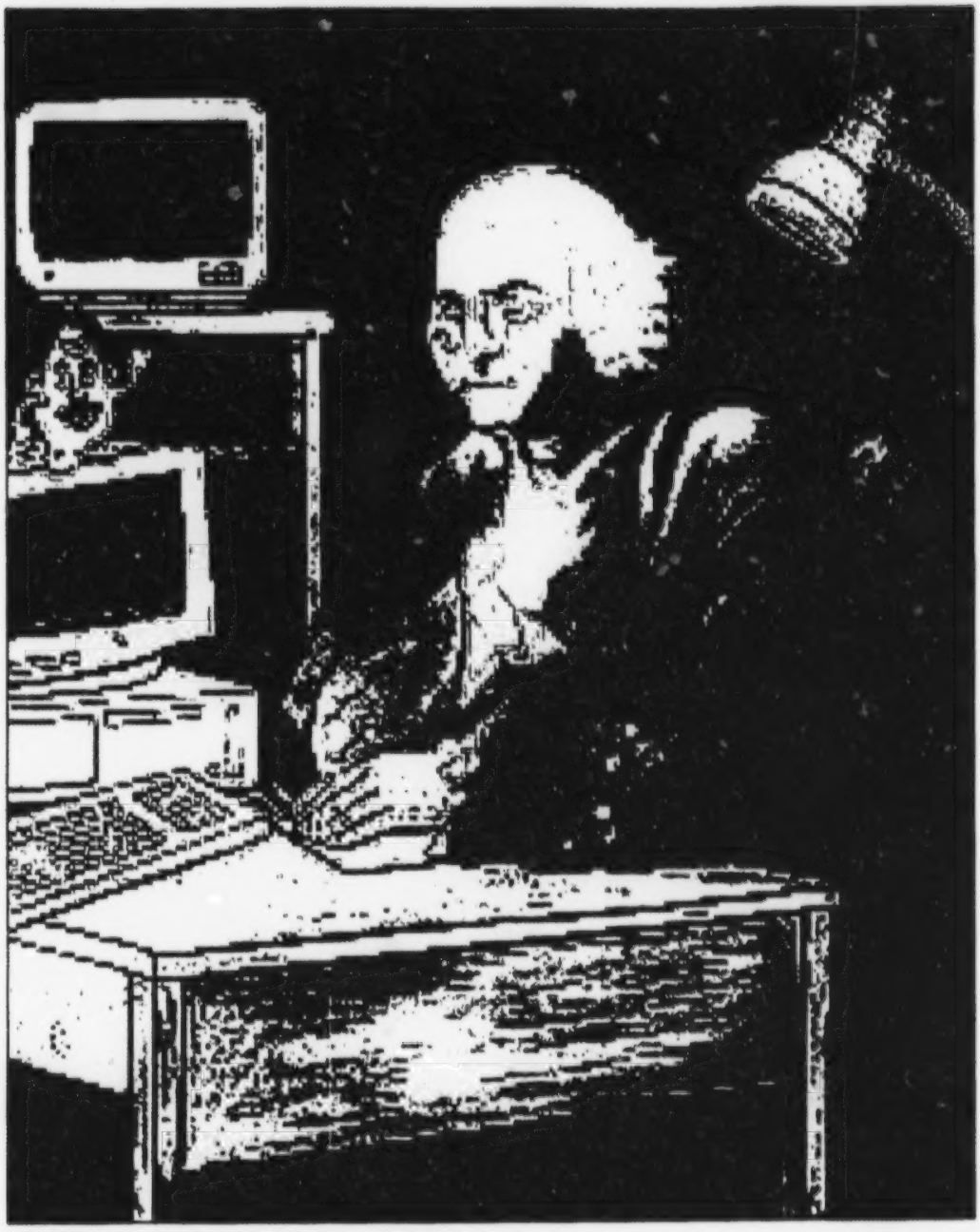
Let's say that someone wishes to express, above all, a devotion to the Backstreet Boys. You might offer some questions for consideration: Is this the best way to explain to people in the future the sort of person you were? Are you sure that your feelings for the Backstreet Boys will prove more enduring than those you had for, say, the group Hanson two years ago? Before students affix the photocopied images of themselves, you might display their "objects as self" portraits and ask the class to guess, on the evidence of the chosen objects, the identities of the artists.

Benjamin Franklin by Ted Lind

This lesson plan was adapted from an activity in the portable exhibit Facing Portraits, created by the Education Department of the Albany Institute of History & Art. Ted Lind created altered images of Franklin using the Institute's copy of the engraving.

Benjamin Franklin, by Edward Savage, after Benjamin West, after David Martin, mexxotint, 1783, National Portrait Gallery, Smithsonian Institution, Washington, D.C.

***Benjamin Franklin*, by Ted Lind.**



***Benjamin Franklin*, by Ted Lind.**

Making Friends With Franklin

Resources: Talking to Some Friends

If you're a Franklin fan and would like to meet others, your best bet is The Friends of Franklin, a society based in Philadelphia. It publishes a newsletter called The Franklin Gazette, holds lectures and symposia on topics related to Franklin, and sponsors trips to places with Franklin connections, both here and in Europe.

There are about 170 FOFs around the world. We caught up with a few of them at a reception in the National Portrait Gallery. We wanted to ask a very big question: What would Franklin make—figuratively or literally—of today's communications technology?

Everyone was game to give it a thought. After the reception, the conversation continued, fittingly, through e-mail. Other Friends joined in as cc recipients, and it was lost on no one that, somewhat like Franklin and his friends, we had formed a circle of correspondence. "It's easy to imagine Franklin with a Website," said Martin Mangold, president of Almanack Software and Consulting in Rockville, Maryland. "The way he gave chunks of his autobiography to various friends as he wrote it sounds like a work-in-progress Website."

Arts administrator Deane Sherman, also of Maryland, said that Franklin might feel very much at home in the age of e-mail: after a long decline in the practice of correspondence, many of us are now building up great bodies of writing, as people did in past centuries.

But don't most of us think of e-mail as something ephemeral, as a kind of talk rather than a kind of writing?

"It is writing," she said. "You have to set it down and make it clear. And he encouraged clear, concise writing."

Diane Guntzel, a fifth-grade teacher in Clinton, Iowa, agreed that Franklin would like e-mail, mainly because quick communications can solve problems for people. She is a believer in constructivism in early education, which emphasizes problem solving and encourages the use of simple building toys. She thinks that Franklin, the great problem solver, would approve of this, and that he would see a big difference between technology as a means to a beneficial end and technology as a novelty.

"Something like play dough gets overlooked in schools now," she said. "It doesn't have blinky lights, but it gives the children a world to build for themselves."

Roy Goodman, curator of printed materials at the American Philosophical Society, thought it important to say that Franklin would be fascinated, at the very least, by all that modern technology has to offer.

"Electricity had no practical use when he became interested in it," said Mr. Goodman. "He wrote a letter to Barbeu Dubourg in which he wished that he could be embalmed and come back to see America in a hundred years. He said, 'We live in an age too early and too near the infancy of science.'"

But isn't it also easy to imagine Franklin seeing today's constant bombardment of information as a cluttering of time better spent with one's own thoughts?

"It's a shame that people don't have time to reflect a little more," said Ralph Archbold, a Philadelphia actor who makes a living portraying his idol. "Franklin wrote, 'The noblest question in the world is, What good may I do in it?' Each day he would reflect, What can I do? At the end of the day he asked, Did I do it? That was the start and close of his day."

You can reach The Friends of Franklin at
(215) BEN-0300
or at the Website listed on the Reference page.

Reference

BOOKS

Cohen, I. Bernard. *Benjamin Franklin's Science.* Harvard University Press, 1990.

Fortune, Brandon Brame, with Deborah J. Warner. *Franklin & His Friends: Portraying the Man of Science in Eighteenth-Century America.* University of Pennsylvania Press, 1999.

Goodman, Nathan, ed. *The Ingenious Dr. Franklin.* University of Pennsylvania Press, 1931.

Silverman, Kenneth, ed. *Autobiography and Other Writings: Benjamin Franklin.* Penguin, 1986.

Van Doren, Carl. *Benjamin Franklin.* Penguin, 1991.

BOOKS FOR YOUNG PEOPLE

Ages 9-12

Fritz, Jean. *What's the Big Idea, Ben Franklin?* Putnam, 1976.

Lawson, Robert. *Ben and Me.* Little Brown, 1988.

Rudy, Lisa Jo, ed. *The Ben Franklin Book of Easy and Incredible Experiments.* John Wiley & Sons, 1995.

Young adult

Potter, Robert R. *Benjamin Franklin* (*Pioneers in Change* Series). Silver Burdett Press, 1992.

ELECTRONIC RESOURCES

The American Philosophical Society
www.amphilsoc.org
A glimpse into the scholarly institution Franklin helped to create in 1743.

Franklin & His Friends
www.npg.si.edu/exh/franklin/
The National Portrait Gallery exhibit online.

The Franklin Institute Science Museum
www.fi.edu
The virtual version of the Philadelphia museum, with lessons plans related to Franklin's experiments.

The Friends of Franklin, Inc.
www.benfranklin2006.org
Includes membership information, notices of new Franklin books, and previews of tours and events.

Making Friends With Franklin

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